



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,407	12/05/2005	Yun-Hee Ku	P5102/JRIM	5617
41943 GWIPS Peter T. Kwon Gwacheon P.O. Box 72 119 Byeolyang Ro Gwacheon City, Gyeonggi-Do, 427-600 KOREA, REPUBLIC OF	7590 10/15/2008		<div>EXAMINER</div> <div>STOCK JR, GORDON J</div>	
			<div>ART UNIT</div> <div>2877</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE</div> <div>10/15/2008</div>	<div>DELIVERY MODE</div> <div>PAPER</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/559,407

Applicant(s)

KU, YUN-HEE

Examiner

GORDON J. STOCK JR

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 1985 is/are: a) ☒ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The Amendment received on June 12, 2008 has been entered into the record.

Drawings and Specification

2. The Drawing received on June 12, 2008 is accepted by the Examiner.
3. The amendment filed June 12, 2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: on page 4 lines 6-8 'a polymer workable by a laser;' on page 7 line 2 'light scattering;' on page 7 line 13 'scattered and diffracted;' on page 8 lines 22 to 24 'which are capable to capture thirty three frames per second' and 'determine the iso-intensity curve of the detected light signal on the sensor array'

Applicant is required to cancel the new matter in the reply to this Office Action.

4. The specification is objected to for the following: on page 15 line 9 'Even tough' should read -even though-. Correction is required.

Claim Objections

5. **Claim 1** is objected to for the following: on line 24 'the length' and 'the analyzed elliptic images' lack antecedent basis. Examiner suggests using -a length- and -analyzed elliptic images-. In addition, 'captured image and pressure measurement' of line 21 should read - captured images and pressure measurements-. In addition, on line 25 'calculating' should read - calculates-. Corrections required. **Claims 2-9** are objected to for depending from an objected base claim.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 5 and 8** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **claim 5**, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

As for **claim 8**, 'wherein said image capturing unit enables capturing the diffracted images of the deformed blood cell without projecting on the screen' is indefinite, for it is unclear how this is accomplished in view of the screen and image capturing unit disclosed in **claim 1**.

9. **Claims 1-10** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Particularly, **claim 1** recites 'calculating the blood cell deformability, variation of the shearing force. and deformation in time based on data received from the pressure gauge' and

'wherein said control unit calculates blood cell deformability and shearing force as a function of time according to pre-calculated data' which were not reasonably conveyed in the specification. Specifically, applicant's specification reiterates the control unit's function on page 3 lines 19-21; page 7 lines 5-7; and page 8, line 16-18. However, applicant's disclosure merely sets out an analysis of blood cell deformability in regards to a calculated deformation index and a shearing force (col. 16, lines 10-15 and Fig. 7). There does not appear to be separate deformation and cell deformability calculations, nor a calculation of shearing variation (see page 12, lines 16-24 and pages 13-14).

In regards to 'wherein said control unit calculates blood cell deformability and shearing force as a function of time according to pre-calculated data' applicant has not demonstrated what the relation is between pressure variation, viscosity, resistance, and vacuum pressures to arrive at a calculated pressure using this pre-calculated data as 'consistent preset conditions' (page 15, lines 10-15). **Claims 2-10** are rejected for depending from a rejected base claim.

Allowable Subject Matter

10. **Claims 1-10** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph and 35 U.S.C. 112 first paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

As to **claim 1**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in measurement unit the control unit calculates blood cell deformability and shearing force as a function of time according to pre-calculated data which are calculated and stored by a computer analyses on time based data of the captured image and pressure

measurement with or without applying instantly measured pressure data in combination with the rest of the limitations of **claims 1-10**.

Response to Arguments

11. Applicant's arguments filed June 12, 2008 have been fully considered but all of them have not been found persuasive. In regards to applicant's arguments on page 11 lines 10-11 that **claims 1-10** is enabled by virtue of the amendment to the claims and specification, Examiner disagrees. 'Wherein said control unit calculates the blood cell deformability and shearing force as a function of time according to pre-calculated data' does not preclude the pressure variation, viscosity, resistance, and vacuum pressures (page 15, lines 10-15) being the pre-calculated data; wherein the applicant has not demonstrated what the relation is between pressure variation, viscosity, resistance, and vacuum pressures to arrive at a calculated pressure using this pre-calculated data as 'consistent preset conditions' (page 15, lines 10-15). In addition, though applicant has amended the specification to demonstrate that the 'control unit for calculating the blood cell deformability with variation of a shearing force,' **claim 1** still reads –control unit for calculating the blood cell deformability, variation of a shearing force, and deformation on time based data (lines 14-16 of **claim 1**)–.

As for applicant's arguments in regards to the previous rejections of **claims 1-10** under 35 U.S.C. 112 second paragraph on pages 9-11 of Remarks, Examiner has found the arguments persuasive except for the argument in regards to **claim 8**. In addition, due to the amendment to **claim 5**, a new rejection under 35 U.S.C. 112 second paragraph has been made. Therefore, the previous rejection of **claims 1-4, 6, 7, 9-10** under 35 U.S.C. 112 second paragraph has been withdrawn. Again, as for the argument on page 11, lines 4-6, Examiner does not agree that

Figure 10 traverses the rejection of **claim 8** under 35 U.S.C 112 second paragraph. Though Figure 10 demonstrates an embodiment that utilizes no screen, **claim 8** depends from **claim 1** which is an embodiment that comprises a screen.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

*Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: **(571) 273-8300***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 8:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/G. J. S./
Examiner, Art Unit 2877

/Gregory J. Toatley, Jr./
Supervisory Patent Examiner, Art Unit 2877
10/15/2008